

IN THE CLAIMS:

Please cancel Claims 8-11 without prejudice to or disclaimer of the recited subject matter.

Please amend Claims 1-7 and 12-17 and add Claims 18-20 as follows:

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1. (Currently Amended) A recording apparatus provided with a stepping motor as an actuator, comprising:

storage means for storing and holding information regarding a final exciting phase of ~~said the stepping motor at the time of~~ upon entering a software power off state in which consumption of electrical power of said recording apparatus is restricted; and

31 control means for starting excitation of the stepping motor based on the information regarding the final exciting phase, read out from said storage means, instead of from said final exciting phase without performing phase alignment of said the stepping motor, when said recording apparatus restarts from the ~~at the time of restarting from a~~ software power off state.

2. (Currently Amended) A recording apparatus provided with a stepping motor as an actuator, comprising:

storage means for storing and holding information regarding a final exciting phase of ~~said the stepping motor at the time of software power off and~~ information regarding a termination status indicating the presence/absence of an abnormality at the time of entering a software power off state; and

control means for, when said recording apparatus restarts at the time of  
restarting from the [[a]] software power off state, starting excitation of the stepping motor  
based on the information regarding the from said final exciting phase, read out from said  
storage means, without performing phase alignment of said the stepping motor when the  
information regarding the termination status is normal, and performing said phase  
alignment of the stepping motor when the information regarding the termination terminal  
status is abnormal.

31 3. (Currently Amended) The recording apparatus according to claim 2,  
wherein said control means starts the phase alignment of the stepping motor based on the  
information regarding the from said final exciting phase when the information regarding  
the termination status is abnormal.

4. (Currently Amended) A recording apparatus provided with driving means  
for driving a member to be driven as a driving source for a stepping motor as an actuator,  
comprising:

storage means for storing and holding information regarding a final exciting  
phase of said the stepping motor at the time of upon entering a software power off state in  
which consumption of electrical power by said recording apparatus is restricted;

a sensor, said sensor detecting whether the driven member for, when  
predetermined pulses are applied to said motor from a standby position, judging whether  
the motor moves by a the predetermined number of pulses when the predetermined number  
of pulses is applied to the stepping motor at a standby position; and

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control means for applying the predetermined number of pulses based on the information regarding the final exciting phase, read out from said storage means, instead of performing phase alignment of the stepping motor when said recording apparatus restarts from the software power off state, when said sensor detects movement by the predetermined number of pulses, and for performing phase alignment of the stepping motor when said sensor does not detect movement by the predetermined number of pulses.  
~~starting excitation from said final exciting phase to apply the predetermined pulses without performing phase alignment of said motor at the time of restarting from a software power off state, normally starting when said sensor judges that the motor moves by said predetermined pulses, and performing the phase alignment of said motor when it is judge that the motor does not move by said predetermined pulses.~~

5. (Currently Amended) A recording apparatus provided with driving means for driving a member to be driven as a driving source for a stepping motor as an actuator, comprising:

storage means for storing and holding information regarding a final exciting phase of said the stepping motor at the time of upon entering a software power off state in which consumption of electrical power by said recording apparatus is restricted;

a sensor, said sensor detecting a rotation amount or a corresponding value of the stepping motor during the for detecting a rotating amount of said motor or an equivalent value which is detectable even in a software power off state; and

control means for determining, when said recording apparatus restarts ,at the time of restarting from the software power off state, an excitation phase corresponding

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to a position of a rotor of the stepping motor at the time of the restart, based on the rotation amount of the stepping motor detected by said sensor and the information regarding the final exciting phase read from said storage means, and starting the excitation of the stepping motor from the determined excitation phase instead of performing phase alignment of the stepping motor. ~~obtaining an exciting phase compatible with a rotor position of said motor at the time of restarting from data of said rotating amount of the motor and said final exciting phase detected by said sensor, and starting excitation from said obtained exciting phase without performing phase alignment of said motor.~~

6. (Currently Amended) The recording apparatus according to ~~any one of claims 1 to 5~~ claim 1, wherein said recording apparatus is a serial type recording apparatus.

7. (Currently Amended) The recording apparatus according to claim 6, wherein ~~the said~~ stepping motor is one of a carriage driving motor, a print medium conveying motor, a print medium feeding motor, and a motor for driving a recording head maintenance mechanism.

8. - 11. (Cancelled)

12. (Currently Amended) A recording apparatus provided with a stepping motor as an actuator, comprising:

drive means for changing an exciting phase of the stepping motor to step-drive the stepping motor;

storage means for storing and holding information regarding a final exciting phase of ~~said the~~ stepping motor ~~at the time of~~ upon entering a software power off of said device state in which consumption of electrical power by said recording apparatus is restricted; and

control means for starting excitation of the stepping motor ~~from said~~ based on the information regarding the final exciting phase stored in said storage means at the time of restarting from ~~[[a]]~~ the software power off state of said device apparatus.

13. (Currently Amended) The recording apparatus according to claim 12, said apparatus further comprising:

31 phase alignment means for aligning a mechanical phase of ~~said the~~ stepping motor and an electrical phase when said apparatus is at a hardware power off state. ~~stored in said storage means, wherein~~

~~at the time of restarting from the power off state of said device, when said control means starts the excitation of the stepping motor from said final exciting phase stored in said storage means, the phase alignment means does not perform the phase alignment.~~

14. (Currently Amended) The recording apparatus according to claim 13, further comprising:

~~another~~ additional storage means for storing a termination status indicating a presence/absence of an abnormality at the time of upon entering a software power off of

~~said device~~ state in which consumption of electrical power of said recording apparatus is restricted, wherein

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at the time of restarting from the software power off state of said ~~device~~ apparatus, said control means starts the excitation of the stepping motor ~~from said~~ based on the information regarding the final exciting phase stored in said storage means without performing the phase alignment by said phase alignment means when said ~~another~~ additional storage means stores a normal termination status, and starts excitation of the stepping motor after said phase alignment means performs the phase alignment ~~by said phase alignment means before starting drive of the stepping motor~~ when said additional ~~another~~ storage means stores an abnormal termination status.

15. (Currently Amended) The recording apparatus according to claim 14, wherein said control means starts the phase alignment by said phase alignment means ~~from said~~ based on the information regarding the final exciting phase stored in said storage means when said ~~another~~ additional storage means stores an abnormal termination status.

16. (Currently Amended) A recording apparatus provided with a stepping motor as an actuator, comprising:

drive means for changing an exciting phase of the stepping motor to step-drive the stepping motor;

storage means for storing and holding information regarding a final exciting phase of ~~said~~ the stepping motor ~~at the time of~~ upon entering a software power off state in

which consumption of electrical power by said recording apparatus is restricted; of said device;

phase alignment means for aligning a mechanical phase of ~~said~~ the stepping motor and an electrical phase stored in said storage means;

a driven member driven by ~~said~~ the stepping motor;

a sensor, said sensor detecting ~~for judging~~ whether said driven member moves by a predetermined number of pulses from a standby position of the member; and

control means for starting excitation of the stepping motor ~~from said~~ based on the information regarding the final exciting phase stored in said storage means to drive said driven member by the predetermined number of pulses at the time of restarting from B1 ~~[[a]] the software power off state of said device apparatus, normally starting the stepping motor~~ without performing the phase alignment by said phase alignment means, when said sensor ~~judges~~ detects that ~~said the~~ driven member is moved by the predetermined number of pulses, and performing the phase alignment by said phase alignment means when said sensor ~~judges~~ detects that ~~said the~~ driven member is not moved by the predetermined number of pulses.

17. (Currently Amended) A recording apparatus provided with a stepping motor as an actuator, comprising:

drive means for changing an exciting phase of the stepping motor to step-drive the stepping motor;

a sensor, said sensor ~~for~~ detecting a value corresponding to a rotating amount of ~~said the~~ stepping motor ~~even at the time of~~ during a software power off state in

which consumption of electrical power by said recording apparatus is restricted; of said device;

storage means for storing and holding information regarding a final exciting phase of ~~said the~~ stepping motor at the time ~~of said apparatus enters the software~~ power off state; of said device, a value stored in the storage means being rewritten in accordance with ~~the value of said sensor at the time of power off, and~~

changing means for changing the information regarding the final exciting phase stored in said storage means in accordance with a value detected by said sensor; and

31 control means for, at the time of restarting from ~~[[a]]~~ the software power off state of said ~~device~~ apparatus, starting excitation of the stepping motor ~~from~~ based on the information regarding the exciting phase ~~rewritten and~~ stored in said storage means ~~also at the time of power off of said device.~~

18. (New) The recording apparatus according to claim 1, wherein the phase alignment of the stepping motor is performed in a manner so that the stepping motor is driven by a predetermined number of pulses at a self-starting region of the stepping motor as a driving region and the mechanical phase and the electrical phase of the stepping motor are identical.

19. (New) The recording apparatus according to claim 1, wherein said storage means is a non-volatile memory.



20. (New) The recording apparatus according to claim 12, wherein said

storage means is a non-volatile memory.

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